

Green Spaces – General Section

The purpose of this section is to give students an overview of how the green spaces around their school are generally used and maintained.

	Inventory Questions	Ideas for School Improvement	Resources	Connections to KY Academic Standards	
1.	Who is responsible for maintaining the school grounds?	Create a seasonal log to track changes around your school. Put it on a website to share with	Kentucky Bluebird Society http://www.biology.eku.edu/kbs/default.html Wild Ones Natural Landscapes	Primary SC-EP-4.7.1 Students will describe the cause and effect relationships existing between organisms	
2.	How much class time is spent outdoors on the school grounds?	schools in other areas of the state. Start a phenology log.	http://www.for-wild.org/ Kentucky chapter of Wild Ones http://www.for-wild.org/chapters.html	and their environments. The world has many different environments. Organisms require an environment in which their needs can be met. When the environment changes some plants and animals	
3.	Does anyone at your school keep a log of seasonal changes (e.g., weather patterns, flowers blooming, wildlife behavior) occurring on your school grounds? Yes No Please explain:	Assign a student per each school day of each month to observe the outdoors and record at least one observation. At the end of the year design a calendar based on the log for the next year's students.	Developing Outdoor Learning Areas—A Kentucky Guide http://www.state.ky.us/agencies/envred/DevelopingOutdoorLearning.pdf Kentucky Ornithological Society http://www.biology.eku.edu/kos/default.htm Fish and Wildlife Backyard Habitat Program http://fw.ky.gov/navigation.asp?cid=229&NavPath=C130C174	survive and reproduce and others die or move to new locations. DOK 2 Fourth Grade SC-04-4.7.1 Students will make predictions and/or inferences based on patterns of evidence related to the survival and reproductive success of organisms in particular environments. The world has many different environments. Distinct environments support the lives of	
4.	Does your school have any of the following features to attract wildlife? A. Bat or bird houses Yes No D. Butterfly Gardens Yes No E. Natural habitat areas Yes No F. Other (please explain)	Create a feature on your school grounds that will attract wildlife. Devise and implement a plan to increase the biodiversity around your school. Review the Southeast Exotic Pest Plant Council	Journey North—A global study of wildlife migration and seasonal change. http://www.learner.org/jnorth/ Learn about starting a phenology log http://www.naturenet.com/earthalive/mmsd/phenology.asp Kentucky Climate Center resources http://kyclim.wku.edu/ Southeast Exotic Pest Plant Council—view pictures of common invasive weeds in the southeast.	different types of organisms. When the environment changes some plants and animals survive and reproduce and others die or move to new locations. Examples of environmental changes resulting in either increase or decrease in numbers of a particular organism should be explored in order to discover patterns and resulting cause and effect relationships between organisms and their environments (e.g., structures and behaviors that make an organism suited to a particular environment). Connections and conclusions should be made based on the data. DOK 3 SS-04-4.1.1 Students will use geographic tools (e.g., maps, charts, graphs) to identify and describe natural resources and other physical characteristics (e.g., major landforms, major bodies	
5.	Are any plants or animals found on the school grounds considered undesirable or "nuisances?" Yes No Please explain:	Web site and determine if any of the plants are growing near your school. Make a list of the top 5 and talk to grounds maintenance staff about removing them.	http://www.se-eppc.org/weeds.cfm	of water, weather, climate, roads, bridges) in regions of Kentucky and the United States. DOK 2 Fifth Grade SC-05-4.7.1 Students will: • describe and categorize populations of organisms according to the function they serve in an ecosystem (e.g., producers, consumers, decomposers);	
6.	How would you rate* the biodiversity on the school grounds? *High – greater than 100 different species of visible plant or animal life Medium – 40 to 99 different species of	Make a map of the area around your school. Highlight areas you believe have educational value. Annotate the map with descriptions of the sites you have		 draw conclusions about the effects of changes to populations in an ecosystem. Populations of organisms can be categorized by the function they serve in an ecosystem. Plants and some microorganisms are producers because they make their own food. All animals, including humans, are consumers, and obtain their food by eating other organisms. Decomposers, primarily bacteria and fungi, are consumers that use 	



	small plants and insects mostly; few vertebrate or tree species live or visit the grounds Low – less than 40 different species; little variety of plant and animal life	highlighted. Print copies and share with teachers at your school. As a class or in groups, create a large map of your county. Include rivers, creeks, caves, natural areas and national	waste materials and dead organisms for food. Food webs identify the relationships among producers, consumers and decomposers in an ecosystem. Using data gained from observing interacting components within an ecosystem, the effects of changes can be predicted. DOK 3 SS-05-4.1.1 Students will use geographic tools (e.g., maps, charts, graphs) to identify natural
7.	What type of land borders your school (e.g., residential, agricultural, natural areas such as rivers or forests, commercial, industrial)? Please list all by compass direction.	forests or parks in your county. Put your school on the map to see how close you are to these places.	resources and other physical characteristics (e.g., major landforms, major bodies of water, weather, climate, roads, bridges) and analyze patterns of movement and settlement in the United States. DOK 3 Sixth Grade
	A. East B. West		SS-06-4.1.1 Students will use a variety of geographic tools (maps, photographs, charts, graphs, databases, satellite images) to interpret patterns and locations on Earth's surface in the
	C. North D. South		present day. DOK 3
			SC-06-4.7.1 Students will describe the consequences of change in one or more abiotic factors on a population within an ecosystem.
.8	What other nearby "green spaces" are suitable for educational purposes (e.g., community park two blocks away, green belt along the river within walking distance of school property, non-profit historical farm located a 5-mile bus trip away, permission from the landowner to use the		The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). DOK 2 Seventh Grade
	vacant lot next door)?		SC-07-4.7.1 Students will compare abiotic and biotic factors in an ecosystem in order to explain consequences of change in one or more factors.
9.	How are field studies or related outdoor classroom topics incorporated into each grade's curriculum?		The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). Given adequate biotic and abiotic resources and no diseases or predators, populations (including humans) increase at rapid rates. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches
10.	Who conducted the Green Spaces Inventory (e.g., Mrs. Wood's fourth grade class with help from Mr. Turf, maintenance worker, local Home Depot store, and the local natural resources conservation district)?		in the ecosystem. DOK 3 Eighth Grade SC-08-4.7.1 Students will describe the interrelationships and interdependencies within an ecosystem and predict the effects of change on one or more components within an ecosystem.



11.	Survey the grounds around your school. Determine whether you have any of the following green spaces. When you have completed the table below, continue the inventory ONLY answering questions in those sections that you marked "yes".	Organisms both cooperate and compete in ecosystems. Often changes in one component of an ecosystem will have effects on the entire system that are difficult to predict. The interrelationships and interdependencies of these organisms may generate ecosystems that are stable for hundreds or thousands of years. DOK 3
	A. Courtyards? Yes No B. Lawns?* Yes No Playgrounds? Yes No Playgrounds?	High School SC-HS-4.7.1 Students will: • analyze relationships and interactions among organisms in ecosystems;
	D. Gardens? Yes No C E. Aquatic communities?** Yes No C F. Wooded areas? Yes No C	 predict the effects on other organisms of changes to one or more components of the ecosystem. Organisms both cooperate and compete in ecosystems. Often changes in one
	G. Other?*** Yes No \(\text{No } \) * - Lawns - mowed areas not used for playground or athletics	component of an ecosystem will have effects on the entire system that are difficult to predict. The interrelationships and interdependencies of these organisms may generate ecosystems that are stable for hundreds or thousands of years. DOK 3
	Aquatic communities - ponds, lakes, rivers, streams, wetlands, ditches, and man- made water features included in an outdoor classroom. *Other - abandoned fields or grassy	SS-HS-4.1.1 Students will use a variety of geographic tools (e.g., maps, globes, photographs, models, satellite images, charts, graphs, databases) to explain and analyze the reasons for the distribution of physical and human features on Earth's surface. DOK 3
	areas that have not been mowed or farmed for several years and may be reverting to a "natural state" or parking lots, caves, erosional areas with bare soil, above ground or underground storage areas, dumps, etc.	



		Green Spaces – Courtyard Section			
	Fill out this section only if y	Fill out this section only if your school has a courtyard.			
	Inventory Questions	Ideas for School Improvement	Resources	Connections to KY Academic Standards	
12.	What purpose does your courtyard serve?	Create a plan that will allow teachers and	Southeast Exotic Pest Plant Council—view pictures of common invasive weeds in the southeast. http://www.se-eppc.org/weeds.cfm	Primary SC-EP-2.3.2 Students will describe patterns in weather and weather data in order to make simple	
13.	Who uses the courtyard? A. Classes? Yes No B. School Clubs? Yes No C. Student Athletes? Yes No Coutside of Class? Yes No Coutside of Class? Yes No Coutside No Coutside No Class? Yes No Coutside No Class? Yes No Coutside N	students to use your courtyard as a learning center. Share your plan with the Site Based Council. On a world map, trace the source of all the synthetic or manufactured materials used in the courtyard. Figure out approximately how much energy it took to get all	A Teacher's Guide to Creating a School Butterfly Garden http://www.monarchwatch.org/garden/guide.htm Butterflies and Moths of Kentucky http://www.butterfliesandmoths.org/map?ds=18& dcs=1	bredictions based on those patterns discovered. Weather changes from day to day and over seasons. Weather can be described using observations and measurable quantities such as temperature, wind direction, wind speed and precipitation. Simple predictions can be made by analyzing collected data for patterns. Fourth Grade SC-EP-4.6.2 Students will describe evidence of the sun providing light and heat to the Earth. Simple observations and investigations begin to reveal that the Sun provides the light and heat necessary to maintain the temperature of Earth. Based on those experiences, the conclusion can be drawn that the Sun's light and heat are necessary to sustain life on Earth.	
15.	How often is the courtyard used (e.g. every day for one hour, once a week for 20 minutes)? What type of vegetation (e.g., species, vegetation types, percent of coverage) is growing in your courtyard?	those things to your school. Review the Southeast Exotic Pest Plant Council Web site and determine if any of the plants are growing near your school. Make a list of the top 5 and talk to grounds maintenance staff about removing them.		SC-04-2.3.3 Students will make generalizations and/or predictions about weather changes from day to day and over seasons based on weather data. Weather changes from day to day and over seasons. Weather can be described by observations and measurable quantities such as temperature, wind direction, wind speed and precipitation. Data can be displayed and used to make predictions. DOK 3 SC-04-4.6.2 Students will: • analyze data/evidence of the Sun providing light and heat to earth; • use data/evidence to substantiate the conclusion that the Sun's light and heat are necessary to sustaining life on Earth. Simple observations, experiments and data collection begin to reveal that the Sun provides the light and heat necessary to maintain the temperature of Earth. Evidence	



16. What are the growing conditions for plants in the courtyard?	collected and analyzed should be used to substantiate the conclusion that the sun's light and heat are necessary to sustain life on Earth. DOK 3
A. Amount of sunlight? B. Temperature range?	Fifth Grade
C. Water? D. Soil?	SC-05-4.6.2 Students will understand that the Sun is a major source of energy for changes on Earth's
E. Space?	surface. The Sun loses energy by emitting light. A tiny fraction of that light reaches Earth, transferring energy from the Sun to Earth.
17. How is the vegetation maintained? (e.g. mowing, pesticides, mulching)	Sixth Grade
mowing, pesticides, maiching)	SC-06-4.6.2
	Students will describe: the effect of the Suns' energy on the Earth system;
	the connection/relationship between the Sun's energy and seasons.
	The Sun is the major source of energy for Earth. The water cycle, winds, ocean currents
18. What animal life is found in the courtyard?	and growth of plants are affected by the Sun's energy. Seasons result from variations in the amount of the Sun's energy hitting Earth's surface.
	DOK 3
	Seventh Grade
	SC-07-4.6.4 Students will describe or represent the flow of energy in ecosystems, using data to draw conclusions about the role of organisms in an ecosystem.
19. What non-living features are found in the courtyard (e.g., rocks, pavement,	For most ecosystems, the major source of energy is sunlight. Energy entering
benches)?	ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis. That energy then passes from organism in food webs.
	DOK 3
	Eighth Grade
	SC-08-4.6.5 Students will:
From what materials (e.g., arsenic-free wood, recycled materials, materials	describe the relationships between organisms and energy flow in ecosystems (food
imported a great distance) are these non- living features made?	chains and energy pyramids); explain the effects of change to any component of the ecosystem.
	Energy flows through ecosystems in one direction from photosynthetic organisms to
	herbivores to carnivores and decomposers. DOK 2
	High School SC-HS-4.6.9
	Students will:
	 explain the cause and effect relationship between global climate and weather patterns and energy transfer (cloud cover, location of mountain ranges, oceans);
	 predict the consequences of changes to the global climate and weather patterns.



	Global climate is determined by energy transfer from the Sun at and near Earth's surface. This energy transfer is influenced by dynamic processes such as cloud cover and the Earth's rotation and static conditions such as the position of mountain ranges and oceans. DOK 3



Green Spaces - Lawns Section Fill out this section only if your school has lawns. Connections to Ideas for **Inventory Questions** Resources **School Improvement KY Academic Standards** What purposes do the lawns serve? Create a landscaping Hundreds of ideas on observing the school's backyard or yours! plan for your school that http://www.backyardnature.net/ Primary would require less Who uses the lawns? mowing and fertilizing and how to create wildlife habitat SC-FP-1.1.1 use fewer pesticides. http://www.nwf.org/backyard/ Students will classify material objects by their properties providing evidence to support A. Classes? Yes □ No □ Include native species their classifications. B. School Clubs? Yes □ No □ and wildlife habitat. Tips for a pesticide free, healthy lawn C. Student http://www.richsoil.com/lawn/index.isp SC-FP-3.4.1 Athletes? Yes □ No □ With permission from Students will explain the basic needs of organisms. D. Students Outside your principal, raise the FAQs about pesticide free lawns http://fag.gardenweb.com/fag/lists/organic/2004020829016580.html of Class? Yes □ No □ money, buy (or get Organisms have basic needs. For example, animals need air, water and food; plants donated) the plants and need air, water, nutrients and light. Organisms can survive only in environments in which E. Staff? Yes □ No □ invite parents and the their needs can be met. Ideas for sustainable urban landscaping F. Community http://www.sustland.umn.edu/ community to help you DOK 2 Members? Yes □ No □ implement your design. How often are the lawns used (e.g. every Get answers from experts to questions about native species in Kentucky day for one hour, once a week for 20 SC-FP-3.4.4 http://www.knps.org/ minutes)? Students will describe a variety of plant and animal life cycles to understand patterns of Create a fact sheet to the growth, development, reproduction and death of an organism. help people have What kinds of plants (e.g., grass species, healthier lawns without herbaceous plants) are growing in Plants and animals have life cycles that include the beginning of life, growth and using too much fertilizer your lawns? development, reproduction and death. The details of a life cycle are different for different and pesticides. Send Are these plants native to your area? organisms. Observations of different life cycles should be made in order to identify these fact sheets home patterns and recognize similarities and differences. with each child. DOK 2 What fertilizers and pesticides (including type, quantity and frequency) are applied Fourth Grade to the lawns? SC-04-3.4.1 Students will: How is the need for pesticides or fertilizers • compare the different structures and functions of plants and animals that for lawns determined? contribute to the growth, survival and reproduction of the organisms; • make inferences about the relationship between structure and function in How often are lawns mowed (e.g., once a organisms. week during growing season, when grass reaches 4" tall, so 1/3 height of grass is Each plant or animal has structures that serve different functions in growth, survival and removed with each mowing)? reproduction. For example, humans have distinct body structures for walking, holding, What happens to grass clippings from seeing and talking. Evidence about the relationship between structure and function mowina? should be used to make inferences and draw conclusions. DOK 3 Are trees growing in the lawns to provide shade and changes in habitat? What happens to tree leaves/branches that fall?



32.	When are lawns watered (e.g., twice a	
	week in the morning, daily in the	Fifth Grade
	evening as needed, not watered)?	SC-05-3.4.1
33.	What animals live in and around the lawn	Students will describe and compare living systems to understand the complementary
	areas?	nature of structure and function. Observations and comparisons of living
34.	What non-living features are found in the	systems at all levels of organization illustrate the complementary nature of
	courtyard (e.g., rocks, pavement,	structure and function. Important levels of organization for structure and function
	benches)?	include cells, tissues, organs, organ systems, organisms (e.g., bacteria, protists,
35.	From what materials (e.g., arsenic-free	fungi, plants, animals), and ecosystems. Examining the relationship between structure and function provides a basis for comparisons and classification schemes.
	wood, recycled materials, materials	DOK 2
	imported a great distance) are these non-	DONZ
	living features made?	Sixth Grade
		SC-06-4.7.1
		Students will describe the consequences of change in one or more abiotic factors on a
		population within an ecosystem. The number of organisms an ecosystem
		can support depends on the resources available and abiotic factors (e.g., quantity
		of light and water, range of temperatures, soil composition).
		DOK
		Seventh Grade
		SC-07-4.7.1
		Students will compare abiotic and biotic factors in an ecosystem in order to explain
		consequences of change in one or more factors. The number of organisms an
		ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). Given adequate
		biotic and abiotic resources and no diseases or predators, populations (including
		humans) increase at rapid rates. Lack of resources and other factors, such as predation
		and climate, limit the growth of populations in specific niches in the ecosystem.
		DOK 3
		Eighth Grade
		SC-08-4.7.1
		Students will describe the interrelationships and interdependencies
		within an ecosystem and predict the effects of change on one or more components
		within an ecosystem. Organisms both cooperate and compete in
		ecosystems. Often changes in one component of an ecosystem will have
		effects on the entire system that are difficult to predict. The interrelationships
		and interdependencies of these organisms may generate ecosystems that are stable
		for hundreds or thousands of years. DOK 3
		DOILO
		High School
		SC-HS-4.7.1
		Students will:
		 analyze relationships and interactions among organisms in ecosystems;
		• predict the effects on other organisms of changes to one or more components of the
		ecosystem.
		Organisms both cooperate and compete in ecosystems. Often changes in one
		component of an ecosystem will have effects on the



entire system that are difficult to predict. The interrelationships and interdependencies of these organisms may generate ecosystems that are stable for hundreds or thousands of years. DOK 3
SC-HS-4.7.2 Students will: • evaluate proposed solutions from multiple perspectives to environmental problems caused by human interaction; • justify positions using evidence/data. Human beings live within the world's ecosystems. Human activities can deliberately or inadvertently alter the dynamics in ecosystems. These activities can threaten current and future global stability and, if not addressed, ecosystems can be irreversibly affected. DOK 3



Green Spaces – Athletic Fields/Playgrounds Section

Fill out this section only if you have athletic fields or playgrounds.

	Inventory Questions	Ideas for School Improvement	Resources	Connections to KY Academic Standards	
36	playgrounds serve?	Using the websites provided, create a safety plan for you athletic fields or playground.	Ideas from the National Program on Playground Safety on how to make your playground safer http://www.uni.edu/playground/	Primary SC-EP-3.4.1 Students will explain the basic needs of organisms.	
38 38 40 41	A. Classes? Yes No B. School Clubs? Yes No C. Student Athletes? Yes No D. Students Outside of Class? Yes No E. Staff? Yes No E. Staff? Yes No E. Staff? Yes No E. Staff? Yes No D. How often are the athletic fields / playgrounds used (e.g. every day for one hour, once a week for 20 minutes)? What type of vegetation (e.g., plant species, percentage of cover) is growing in your athletic fields/playgrounds? How is vegetation maintained (e.g., mowing, watering, fertilizers, pesticides)? How is the need for pesticides and fertilizers for the athletic fields/playgrounds determined?	fields or playground. Create a PowerPoint and brochure that makes the plan easy to understand. Share the plan with teachers and students.	More on playground safety from http://www.kidshealth.org/parent/firstaid_safe/outdoor/playground.html Resources for many types of safe and healthy play areas http://www.b4ubuild.com/links/play_areas.shtml A guide to ADA accessibility for playgrounds http://www.access-board.gov/play/guide/intro.htm A review of the book, "Last Child in the Woods: Nature Deficit Disorder" http://www.hookedonnature.org/lastchild.html	Organisms have basic needs. For example, animals need air, water and food; plants need air, water, nutrients and light. Organisms can survive only in environments in which their needs can be met. DOK 2 SC-EP-3.4.4 Students will describe a variety of plant and animal life cycles to understand patterns of the growth, development, reproduction and death of an organism. Plants and animals have life cycles that include the beginning of life, growth and development, reproduction and death. The details of a life cycle are different for different organisms. Observations of different life cycles should be made in order to identify patterns and recognize similarities and differences. DOK 2 SC-EP-1.1.1 Students will classify material objects by their properties providing evidence to support their classifications. Objects are made of one or more materials such as paper, wood, and metal. Objects can be described by the properties of the materials from which they are made. Those properties and measurements of the objects can be used to separate or classify objects or materials. DOK 3 SS-EP-3.3.2 Students will explain different ways that people acquire goods and services (by trading/bartering goods and services for other goods and services or by using money).	
43	What animal life is found on the athletic fields/playgrounds?			PL-EP-2.2. 5 Students will identify rules of play and sportsmanship for spectators and	



44.	What non-living features are found on the	participants during games and/or activities that make them safe and enjoyable.
	athletic fields/playgrounds (e.g.,	Favority Canada
	equipment, pavement, bleachers)?	Fourth Grade SC-04-3.4.1
45.	From what materials (e.g., arsenic-free	Students will:
	wood, recycled materials, materials	• compare the different structures and functions of plants and animals that
	imported a great distance, playground	contribute to the growth, survival and reproduction of the organisms;
	surface, lead-free paint) are these non- living features made?	make inferences about the relationship between structure and function in organisms. Each plant or animal has structures that serve
46.	What safety measures are used on the	different functions in growth, survival and reproduction. For example, humans have
	athletic fields/playgrounds?	distinct body structures for walking, holding, seeing and talking. Evidence about the
		relationship between structure and function should be used to make inferences and draw
	A. Fall zones? Yes No	conclusions. DOK 3
	B. Staff supervision? Yes □ No □ □ C. No protrusion or	DOK 3
	splintering	SS-04-3.3.1
	hazards? Yes 🗆 No 🗀	Students will give examples of markets; explain how they function and how the
	D. Pinch-free points? Yes □ No □	prices of goods and services are determined by supply and demand. DOK 2
	No openings where head can be	DOK 2
	entrapped? Yes \(\sigma\) No \(\sigma\)	PL-04-2.2.5
	F. Guard rails? Yes □ No □	Students will explain how rules of play and sportsmanship for spectators and
	G. Shock-absorbing	participants during games and/or activities make them safe and enjoyable
	surface? Yes □ No □ H. Other? Please	Fifth Grade
	Explain.	SC-05-3.4.1
		Students will describe and compare living systems to understand the complementary
		nature of structure and function. Observations and comparisons of living systems at all levels of organization illustrate the complementary nature of
		systems at all levels of organization illustrate the complementary nature of structure and function. Important levels of organization for structure and function
		include cells, tissues, organs, organ systems, organisms (e.g., bacteria, protists,
		fungi, plants, animals), and ecosystems. Examining the relationship between
		structure and function provides a basis for comparisons and classification schemes.
		DOK 2
		Sixth Grade
		PL-06-2.2.5
		Students will identify rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others
		through verbal and nonverbal actions for spectators and/or participants) that are
		necessary during games and sports.
		SS-06-3.3.1 Students will explain how in present day market economies, the prices of goods and
		services are determined by supply and demand.
		DOK 2
		Occupation 1
		Seventh Grade SC-07-4.7.1
		Students will compare abiotic and biotic factors in an ecosystem in order to explain
		consequences of change in one or more factors.

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	The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). Given adequate biotic and abiotic resources and no diseases or predators, populations (including humans) increase at rapid rates. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches in the ecosystem. DOK 3
	PL-07-2.2.5 Students will identify rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others through verbal and nonverbal actions for spectators and/or participants) that are necessary during games and sports.
	Eighth Grade PL-08-2.2.5 Students will analyze the value of rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others through verbal and nonverbal actions for spectators and/or participants) during games and sports.
	SS-08-3.3.1 Students will explain how in the United States prior to Reconstruction, the prices of goods and services were determined by supply and demand. DOK 2
	High School PL-HS-2.2.5 Students will analyze the value and role of rules, fair play, cooperation and sportsmanship for spectators/participants during games and sports.
	SC-HS-4.6.5 Students will describe and explain the role of carbon-containing molecules and chemical reactions in energy transfer in living systems.
	Living systems require a continuous input of energy to maintain their chemical and physical organization since the universal tendency is toward more disorganized states. The energy for life primarily derives from the Sun. Plants capture energy by absorbing light and using it to break weaker bonds in reactants (such as carbon dioxide and water) in chemical reactions that result in the formation of carbon-containing molecules. These molecules can be used to assemble larger molecules (e.g., DNA, proteins, sugars, fats). In addition, the energy released when these molecules react with oxygen to form very strong bonds can be used as sources of energy for life processes. DOK 3
	SS-HS-3.3.1 Students will explain and give examples of how numerous factors influence the supply and demand of products (e.g., supply—technology, cost of inputs, number of sellers: demand—income, utility, price of similar products, consumers' preferences). DOK 2



Green Spaces – Garden Section

Fill this section out only if your school has gardens.

	Inventory Questions Ideas for	Resources	Connections to		
	School improvement	11111111	KY Academic Standards		
4	47. What types of gardens does your school have (e.g., butterfly, vegetable, rain, fruit, herb, flower, habitat)? Create or substantially improve a garden site at your school. Decide what kind would be best	Grants from the National Gardening Association http://www.kidsgardening.com/grants.asp Ideas for instructional themes related to gardening	Primary SC-EP-3.4.1 Students will explain the basic needs of organisms.		
	48. Who uses the gardens? A. Classes? Yes No plant a garden appropriate for those conditions. Be sure and plan how the plants from your garden will be used. E. Staff? Yes No plant a garden appropriate for those conditions. Be sure and plan how the plants from your garden will be used. E. Staff? Yes No plant a garden appropriate for those conditions. Be sure and plan how the plants from your garden will be used. Examples of gardens and their uses include the following	http://www.kidsgardening.com/themes/theme-splash.asp Ideas for kids garden projects for every month of the year http://www.geocities.com/Heartland/Hills/6160/kidsprojects.html Ideas for gardening projects with kids from our friends in Great Britain http://www.bbc.co.uk/gardening/gardening_with_children/ A printable gardening guide for kids http://www.whitneyfarms.com/guide/kids/ Resources from EE-link on gardening and learning http://eelink.net/pages/EE+Activities+-+School+Gardens	Organisms have basic needs. For example, animals need air, water and food; plants need air, water, nutrients and light. Organisms can survive only in environments in which their needs can be met. DOK 2 SC-EP-3.4.4 Students will describe a variety of plant and animal life cycles to understand patterns of the growth, development, reproduction and death of an organism. Plants and animals have life cycles that include the beginning of life, growth and development, reproduction and death. The details of a life cycle are different for different organisms. Observations of different life cycles should be made in order to identify		
į	given to cafeteria for lunches, sold to community, donated to local food pantry, seeds harvested to replant)? 50. What type of vegetation (e.g., plant species, percentage of cover) grows in your gardens? can be dried and either sold to buy more plants, used in the school lunches or given to people in the community		patterns and recognize similarities and differences. DOK 2 SC-EP-1.1.1 Students will classify material objects by their properties providing evidence to support their classifications.		
	51. What fertilizer and pesticides (including type, quantity and frequency) are applied to the gardens? -a vegetable garden or orchard. Gardens that produce food can be used to help supply community kitchens and		Objects are made of one or more materials such as paper, wood, and metal. Objects can be described by the properties of the materials from which they are made. Those properties and measurements of the objects can be used to separate or classify objects or materials.		
,	fertilizers for the gardens determined? How is the need for pesticides and other food programs. -A butterfly garden.		DOK 3 SS-EP-3.3.2 Students will explain different ways that people acquire goods and services (by		
	around the gardens? attract butterflies. Study the life cycle of the butterflies that come to		trading/bartering goods and services for other goods and services or by using money). PL-EP-2.2. 5 Students will identify rules of play and sportsmanship for spectators and		
į	54. What non-living features are found in the gardens (e.g., equipment, pavement, benches, fences)? your garden. An historic garden. Find out what kinds of crops		participants during games and/or activities that make them safe and enjoyable.		



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Students will compare abiotic and biotic factors in an ecosystem in order to explain				
				Students will compare abiotic and biotic factors in an ecosystem in order to explain
				consequences of change in one or more factors.



	The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). Given adequate biotic and abiotic resources and no diseases or predators, populations (including humans) increase at rapid rates. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches in the ecosystem. DOK 3 Eighth Grade SC-08-3.4.4 Students will describe and explain patterns found within groups of organisms in order to make biological classifications of those organisms. Observations and patterns found within groups of organisms allow for biological classifications based on how organisms are related. DOK 2 High School SC-HS-3.4.7 Students will: • classify organisms into groups based on similarities; • infer relationships based on internal and external structures and chemical processes. Biological classifications are based on how organisms are related. Organisms are classified into a hierarchy of groups and subgroups based on similarities that reflect their relationships. Species is the most fundamental unit of classification. Different species are classified by the comparison and analysis of their internal and external structures and the similarity of their chemical processes. DOK 2
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Green Spaces – Aquatic Communities Section

Fill this out only if your school has an aquatic community.

	Inventory Questions	Ideas for School Improvement	Resources	Connections to KY Academic Standards
56.	What purpose do the aquatic areas serve?	Create or substantially improve a water feature on your school grounds. Conduct research on the	Contact the local office of the Natural Resource Conservation Service or the local conservation district. Use this searchable database to help you locate them. http://keec.ky.gov/studenttrack/localgridx.aspx	Primary SC-EP-3.4.1 Students will explain the basic needs of organisms.
57.	Who uses the aquatic areas? A. Classes? Yes No B. School Clubs? Yes No C. Student Athletes? Yes No Control Class? Yes Control Class? Yes No Control Class? Yes Control Class?	ideal conditions for the type of water feature you choose. Create and implement a plan for constructing or improving this water feature. Include ideas for what students could learn from observing and using the water feature. Provide all this information to the principal.	The science of rivers and water http://www.siue.edu/OSME/river/Whatisriversproject/Whatisriverproj.htm Get students involved in protecting Kentucky's water http://www.state.ky.us/agencies/nrepc/water/waterwat.htm National curriculum on water http://www.projectwet.org/	Organisms have basic needs. For example, animals need air, water and food; plants need air, water, nutrients and light. Organisms can survive only in environments in which their needs can be met. DOK 2 SC-EP-3.4.4 Students will describe a variety of plant and animal life cycles to understand patterns of the growth, development, reproduction and death of an organism. Plants and animals have life cycles that include the beginning of life, growth and development, reproduction and death. The details of a life cycle are different for different organisms. Observations of different life cycles should be made in order to identify patterns and recognize similarities and differences.
00.	every day for one hour, once a week for 20 minutes)?	Conduct a survey of the types of plants and animals in the water	How to contact Project WET in Kentucky http://keec.ky.gov/project_wet.htm	DOK 2 Fourth Grade
59.	What types of aquatic communities does your school have (e.g., lake, river, pond, stream, ditch, sewage treatment area, wetland, birdbath)?	feature on your school grounds. What percentage of the plants are non native species? Devise a plan to reduce		SC-04-3.4.1 Students will: • compare the different structures and functions of plants and animals that contribute to the growth, survival and reproduction of the organisms;
60.	What percentage of each aquatic community is: a. Open water?	the number of non native species n your water feature. Carry out the plan.		make inferences about the relationship between structure and function in organisms. Each plant or animal has structures that serve different functions in growth, survival and reproduction. For example, humans have distinct body structures for walking, holding, seeing and talking. Evidence about the relationship between structure and function should be used to make inferences and draw conclusions. DOK 3 Fifth Grade SC-05-3.4.1 Students will describe and compare living systems to understand the complementary
61.	What plant species are growing in your aquatic communities?			nature of structure and function. Observations and comparisons of living systems at all levels of organization illustrate the complementary nature of structure and function. Important levels of organization for structure and function



62.	What fertilizers and pesticides (including type, quantity and frequency) are applied to (or near) the aquatic communities?	include cells, tissues, organs systems, organisms (e.g., bacteria, protists, fungi, plants, animals), and ecosystems. Examining the relationship between structure and function provides a basis for comparisons and classification schemes. DOK 2
63.	How is the need for pesticides or fertilizers for the aquatic communities determined?	Sixth Grade SC-06-4.7.1 Students will describe the consequences of change in one or more abiotic factors on a
64.	What animal species live in and around the aquatic communities?	population within an ecosystem. The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). DOK
65.	Are your aquatic communities fishable?	Seventh Grade
	Yes □ No □	Sc-07-4.7.1
	Please explain:	Students will compare abiotic and biotic factors in an ecosystem in order to explain consequences of change in one or more factors. The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g.,
66.	What non-living features are found in the	quantity of light and water, range of temperatures, soil composition). Given adequate biotic and abiotic resources and no diseases or predators, populations (including
	aquatic areas (e.g., equipment, boardwalks, piers, trails, signage)?	humans) increase at rapid rates. Lack of resources and other factors, such as predation
67.	From what materials (e.g., arsenic-free	and climate, limit the growth of populations in specific niches in the ecosystem. DOK 3
07.	wood, recycled materials, materials imported a great distance, trail surface) are	Eighth Grade
	these non-living features made?	SC-08-4.7.1
		Students will describe the interrelationships and interdependencies within an ecosystem and predict the effects of change on one or more components
		within an ecosystem. Organisms both cooperate and compete in ecosystems. Often changes in one component of an ecosystem will have effects on the entire system that are difficult to predict. The interrelationships
		and interdependencies of these organisms may generate ecosystems that are stable
		for hundreds or thousands of years. DOK 3
		High School SC-HS-4.7.1
		Students will:
		 analyze relationships and interactions among organisms in ecosystems; predict the effects on other organisms of changes to one or more components of the ecosystem.
		Organisms both cooperate and compete in ecosystems. Often changes in one component of an ecosystem will have effects on the entire system that are difficult to predict. The interrelationships and interdependencies of these organisms may generate ecosystems
		these organisms may generate ecosystems that are stable for hundreds or thousands of years. DOK 3



			SC-HS-4.7.2 Students will: • evaluate proposed solutions from multiple perspectives to environmental problems caused by human interaction; • justify positions using evidence/data. Human beings live within the world's ecosystems. Human activities can deliberately or inadvertently alter the dynamics in ecosystems. These activities can threaten current and future global stability and, if not addressed, ecosystems can be irreversibly affected. DOK 3
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Green Spaces - Wooded Areas Section

Fill out this section only If you have wooded areas near on your school grounds.

	Inventory Questions	Ideas for	Pagaurage	Connections to
	Inventory Questions	School Improvement	Resources	KY Academic Standards
68.	What purposes do the wooded areas serve?	Divide your class into groups of 4 or 5. Give each group a hula hoop or a loop of string. Assign	A review of the groundbreaking book, Last Child in the woods http://www.hookedonnature.org/lastchild.html	Primary SC-EP-3.4.1 Students will explain the basic needs of organisms.
69.	Who uses the wooded areas? A. Classes? Yes No B. School Clubs? Yes No D. Student Athletes? Yes No D. Students Outside of Class? Yes No E. Staff? Yes No F. Community Members? Yes No D. How often are the wooded areas used	groups different areas of the school grounds. Have them place their hoop or string in a certain spot and count the different species they find within it. Give them magnifying lenses and have them draw the species they see. Let them dig a small hole to look underground. Compile the lists to	Ecosystem Matters: Activity and Resource Guide (Activities for all grade levels) http://www.na.fs.fed.us/spfo/pubs/misc/eco/index.html Urban Forestry Laboratory Exercises (Elementary, Middle, and High School) http://www.na.fs.fed.us/spfo/pubs/uf/lab_exercises/table.htm Resources from EE-link on forests and woodlands http://eellink.net/environmentallinks-forestryandagriculture.html	Organisms have basic needs. For example, animals need air, water and food; plants need air, water, nutrients and light. Organisms can survive only in environments in which their needs can be met. DOK 2 SC-EP-3.4.4 Students will describe a variety of plant and animal life cycles to understand patterns of the growth, development, reproduction and death of an organism. Plants and animals have life cycles that include the beginning of life, growth and development, reproduction and death. The details of a life cycle are different for different
70.	(e.g. every day for one hour, once a week for 20 minutes)?	determine how much biodiversity there is. Which areas of the		organisms. Observations of different life cycles should be made in order to identify patterns and recognize similarities and differences. DOK 2
71.	school have (e.g., upland hardwoods, pin-oak, bottomland hardwoods, mixed mesophytic, nonnative landscaping trees)?	grounds were most diverse? Why? How can you increase biodiversity?		Fourth Grade SC-04-3.4.1 Students will: • compare the different structures and functions of plants and animals that contribute to the growth, survival and reproduction of the organisms;
72.	What percentage of wooded areas is: A. Early Success ional (e.g., shrubs and saplings)?% B. Young Forest (e.g., pole timber, small diameter)?% C. Mature Forest (e.g., logs, large diameter)?% D. Climax Forest (e.g., trees over 200 years old, never cut)?% E. Explain how you determined your answer			make inferences about the relationship between structure and function in organisms. Each plant or animal has structures that serve different functions in growth, survival and reproduction. For example, humans have distinct body structures for walking, holding, seeing and talking. Evidence about the relationship between structure and function should be used to make inferences and draw conclusions. DOK 3
73.	What plant species are growing in your wooded areas?			Fifth Grade SC-05-3.4.1 Students will describe and compare living systems to understand the complementary

	Schools	reactiet Neteretice	
74.	How would you rate your forest health? Please explain your answer. Please use the following as a guide: *High – 15 or more different native tree species per acre; exotic invasive species covering less than 10% of area; less than 10% of trees damaged by weather, or		nature of structure and function. Observations and comparisons of living systems at all levels of organization illustrate the complementary nature of structure and function. Important levels of organization for structure and function include cells, tissues, organs, organ systems, organisms (e.g., bacteria, protists, fungi, plants, animals), and ecosystems. Examining the relationship between structure and function provides a basis for comparisons and classification schemes. DOK 2
	with dead or dying branches, holes in the trunk due to insect borers, mushrooms or fungi growing on the trunk, bleeding cankers (sores) on the trunk, loose or missing bark, or with disease vectors (leaf miners, blight, gypsy moth); all three layers of structural diversity (e.g., floor, understory, canopy)		Sixth Grade SC-06-4.7.1 Students will describe the consequences of change in one or more abiotic factors on a population within an ecosystem. The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). DOK Seventh Grade
	Medium – between 6-14 different native tree species, exotic invasive species covering 10- 25% of area; 10-25% of trees damaged by weather, or with dead or dying branches, holes in the trunk due to insect borers, mushrooms or fungi growing on the trunk, bleeding cankers (sores) on the trunk, loose or missing bark, or with disease vectors (leaf miners, blight, gypsy moth); only two layers of		Seventh Grade SC-07-4.7.1 Students will compare abiotic and biotic factors in an ecosystem in order to explain consequences of change in one or more factors. The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). Given adequate biotic and abiotic resources and no diseases or predators, populations (including humans) increase at rapid rates. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches in the ecosystem. DOK 3
	structure. Low – 5 or less different native tree species; exotic invasive species covering more than 25% of area; more than 25% of trees damaged by weather, or with dead or dying branches, holes in the trunk due to insect borers, mushrooms or fungi growing on the trunk, bleeding cankers (sores) on the trunk, loose or missing bark, or with disease vectors (leaf miners, blight, gypsy moth); only one layer of structural diversity (e.g., floor,		Eighth Grade SC-08-4.7.1 Students will describe the interrelationships and interdependencies within an ecosystem and predict the effects of change on one or more components High School SS-HS-4.4.2 Students will explain how human modifications to the physical environment (e.g., deforestation, mining), perspectives on the use of natural resources (e.g., oil, water, land), and natural disasters (e.g., earthquakes, tsunamis, floods) may have possible global effects (e.g., global warming, destruction of the rainforest, acid rain) in the modern world (1500 A.D. to present) and United States (Reconstruction to present). DOK 2
75. 76.	understory, canopy) What fertilizers and pesticides (including type, quantity and frequency) are applied to the wooded areas? How is the need for pesticides and fertilizers for the wooded areas determined?		SC-HS-4.6.5 Students will describe and explain the role of carbon-containing molecules and chemical reactions in energy transfer in living systems. Living systems require a continuous input of energy to maintain their chemical and physical organization since the universal tendency is toward more disorganized states. The energy for life primarily derives from the Sun. Plants capture energy by absorbing light and using it to break weaker bonds in reactants (such as carbon dioxide and water)



77. 78.	How are the wooded areas managed (e.g., no logging, thinning, pruning, selected cutting, clear-cutting, wildlife habitat, recreation)? How are products from the wooded areas	in chemical reactions that result in the formation of carbon-containing molecules. T molecules can be used to assemble larger molecules (e.g., DNA, proteins, sugars, In addition, the energy released when these molecules react with oxygen to form v strong bonds can be used as sources of energy for life processes. DOK 3	fats).
70	used (e.g., left in forest for all to enjoy, logs, saplings or fruits sold to community, turned to mulch for school grounds, recreation use permitted)?	SC-HS-4.6.10 Students will: identify the components and mechanisms of energy stored and released from food molecules (photosynthesis and respiration);	
79. 80.	What animal species live in and around the wooded areas?	apply information to real-world situations. Energy is released when the bonds of food molecules are broken and new compount bound in the state of t	the
80.	Are your wooded areas huntable? Yes □ No □ Please explain:	respiration, some energy is lost as heat. DOK 3 SC-HS-4.7.1	
81.	What non-living features are found in the wooded areas (e.g., equipment, shelters, trails, signage)?	Students will: analyze relationships and interactions among organisms in ecosystems; predict the effects on other organisms of changes to one or more components of the ecosystem. Organisms both cooperate and compete in ecosystems. Often changes in one	
82.	From what materials (e.g., arsenic-free wood, recycled materials, materials imported a great distance, trail surface) are these non-living features made?	component of an ecosystem will have effects on the entire system that are difficult predict. The interrelationships and interdependencies of these organisms may general ecosystems that are stable for hundreds or thousands of years. DOK 3	